

### **REMARKS**

Claims 13-15 and 17-32 are now currently pending in the present application. Applicants thank the Examiner for noticing the inadvertent error in the numbering of the claims. The present claim set has been renumbered to be inclusive of claim 31 (previously skipped). Claim 13 has been amended to incorporate the subject matter of claim 16. Consequently, claim 16 has been cancelled and claim 17 has been amended. No new matter has been added by way of the present claim amendment.

#### ***Rejections Under 35 U.S.C. §102 and 35 U.S.C. §103***

Claims 13, 16 18-26, 29, 30, 32 and 33 (now 31 and 32) stand rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over USP 6,120,556 to Nishino et al. (hereinafter "Nishino").

Nishino discloses a stabilizing agent comprising at least following three components (column 3, lines 39-60):

A) a homopolymer of  $\alpha$ -hydroxyacrylic acid or a copolymer of  $\alpha$ -hydroxyacrylic acid with another comonomer or a water-soluble salt or polylactone thereof,

B) a homopolymer of acrylic acid, methacrylic acid or maleic acid or a copolymer of at least two of said acids or a copolymer of acrylic acid, methacrylic acid or maleic acid with another comonomer or a water-soluble salt thereof, and

C) a conventional chelating acid comprising DTPA or TTHA.

Nishino also discloses methods for bleaching a fiber material comprising either

1) pretreating the fiber material with an aqueous solution of said stabilizing agent, and then bleaching the pretreated fiber material with an aqueous solution of a bleaching agent (column 3, line 66 – column 4, line 23), or

2) bleaching the fiber material with an aqueous solution comprising a bleaching agent and said stabilizing agent (column 4, lines 29-53).

According to Nishino, the stabilizing agent comprising the above three components can be in the state of an aqueous solution having a pH value of 6 to 11, more preferably 8 to 10 (column 7, lines 41-43). The purpose of the pH adjustment of Nishino is to make the solution *"useful for easily preparing a peroxide bleaching solution having an optimum pH value"* (column 7, lines 43-46). According to the Nishino examples, the stabilizing agents were prepared by dissolving the components (A), (B), (C) and optionally (D) in water and adjusting the pH of the aqueous solutions to 6.9 to 10.2 (column 10, lines 62-67). The pH values of the prepared single aqueous solutions are not disclosed.

Nishino does not disclose the important pH feature of amended claim 13 wherein the polymer solution has a pH of at most 6.

Additionally, claim 13 recites: a) adding the polymer solution to the cellulosic fibre material, and b) thereafter adding a peroxide compound and an alkaline substance and carrying out the bleaching. As explained in the specification in Section [0027], this means that a) and b) are carried out in the same bleaching step (i.e., there is no washing between a) and b)), and that b) is carried out essentially immediately after the addition of the two polymers.

Nishino does not teach or suggest these essential features of the present invention. The second bleaching process 1) of Nishino includes a separate pretreatment step followed by a bleaching step. Normally the pulp is washed between the steps (column 16, lines 24-28) and the pretreatment requires a certain time period (at least 15 minutes – column 9, line 43-46). This is contrast with the requisite steps of the present invention.

Accordingly, claim 13 and the claims which depend therefrom, cannot be anticipated by Nishino, within the meaning of 35 U.S.C. §102(b).

Moreover, Applicants respectfully submit that Nishino does not render the presently claimed invention obvious.

It should be emphasized that when the two polymers of Nishino are combined (i.e. an alkaline pH value, the most preferred pH being from 8 to 10 – page 6, line 16), a precipitation will occur sooner or later.

The present invention solves this problem by providing an acidic aqueous polymer solution of the two polymers (A) and (B), the pH of the polymer solution being at most 6, preferably at most 5. Nishino does not disclose nor suggest solving the precipitation problem by providing an acidic aqueous stabilizing solution.

The stabilizing effect of the polymer solution used in the peroxide bleaching process of the present invention is demonstrated by means of the examples included in the description (pages 3-4). These examples show that the polymer solutions of the present invention having pH values of 4.8 (Example 1), 4.5 (Example 2) and 6.4 (Example 3) were stable, whereas a polymer solution having a pH of 7.3 was not stable but became turbid and separated into two layers (Reference example 1).

Additionally, the excellent bleaching results obtained by the process of the present invention are verified by means of bleaching experiments (Examples 6 to 11).

In view of the above, it is submitted that amended claim 13 and the claims which depend therefrom, are not obvious in view of Nishino.

Reconsideration and withdrawal of the outstanding rejection are respectfully requested.

Claims 14, 15 and 17 stand rejected under 35 U.S.C. §103(a) as being rendered obvious by Nishino in view of USP 4,238,282 to Hyde (hereinafter "Hyde").

The above comments regarding Nishino are likewise applicable to the outstanding rejection. Additionally, with regard to claim 14 Applicants wish to provide the following comments. The Examiner set forth in the Official Action that it is obvious to substitute one known chelant (DTPA or TTHA of Nishino) for another known chelant (phosphonate chelant of Hyde).

Hyde discloses non-nitrogen containing chelates such as phosphonates (column 2, lines 15-65) useful for removing iron and manganese (column 1, lines 63-65).

However, it should be noted that Nishino only discloses two chelants, (i.e., DTPA or TTHA) most likely because the other tested chelants worked unsatisfactorily. Thus, in Comparative Example 14 in Table 1 the chelant was the phosphonate EDTMP (ethylenediamine tetra (methylenephosphonic acid) sodium salt) and the obtained stability of  $H_2O_2$  was only 36.9% compared to 78.2 % for Example wherein IJTPA was used as a chelant. In column 11-12, line 48 this compound is erroneously named as being a sulfonic acid.

Thus, based on the teachings of Nishino, a person of ordinary skill in the art would not substitute the chelants of Nishino for the phosphate chelants of Hyde or any other chelant. Also, a person of ordinary skill would not consider omitting the chelant of Nishino, as Nishino states that "*combinations of only two of the components (A), (B), and (C), exhibit an unsatisfactory stabilizing effect on the peroxide bleaching procedure*" (column 6, lines 61-63).

Accordingly, in view of the above considerations, Applicants respectfully submit that combination of Nishino and Hyde does not render the presently claimed invention obvious. Reconsideration and withdrawal of the outstanding rejection is respectfully requested.

Claims 27 and 28 stand rejected under 35 U.S.C. §103(a) as being rendered obvious by Nishino in view of USP 6,444,771 to Yamaguchi et al. (hereinafter "Yamaguchi").

The above comments regarding Nishino are likewise applicable to the outstanding rejection. Accordingly, in view of the above considerations, Applicants respectfully request reconsideration and withdrawal of the outstanding rejection.

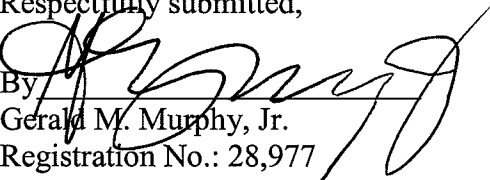
In view of the foregoing, Applicants believe the pending application is in condition for allowance. A Notice of Allowance is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Monique T. Cole, Reg. No. 60,154 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

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